

AS
Cancel

16. (New) The clamping tool of claim 14, wherein the first and second toggle joints form an angle with respect to one another when in the dead point positions.

17. (New) The clamping tool according to claim 16, wherein the angle is between about 175° and about 180°.

18. (New) The clamping tool according to claim 14, further comprising first and second clamping surfaces formed on the clamping member, said first and second clamping surfaces being directed substantially perpendicular to one another.

REMARKS

The Office Action dated April 25, 2002 has been carefully considered. Claims 1-8, and 10-18 are currently pending in this Application and are presented for the Examiner's review and consideration. Claims 4, 5, and 11 have been amended to more clearly point out and claim the invention sought to be patented. Claim 9 has been canceled. New claims 14-18 have been added. Applicant appreciates the Examiner's indication of allowability of the subject matter of claims 2-4, and 12-13.

I. SPECIFICATION

The Abstract was objected to because the term "means" appeared in the text thereof. In response, the Abstract has been amended to remove the "means" terminology.

II. CLAIM REJECTIONS UNDER 35 U.S.C. § 112

Claims 5-7 were rejected under 35 U.S.C. § 112, first paragraph, as "containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention." More specifically, the Examiner stated that "there is no mention in the specification of the 5th or 6th swivel connections." This rejection is respectfully traversed.

The Examiner's attention is respectfully directed to the Summary Of The Invention at page 3, lines 4-20, of the application as originally filed, where an embodiment having fifth and sixth swivel connections is described. For clarity, this description has been inserted into the Detailed Description Of The Preferred Embodiments, along with the corresponding reference numbers. No new matter has been added.

Claims 4-7, and 9 were rejected under 35 U.S.C. § 112, second paragraph, as “being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.”

Specifically, claim 4 was rejected for being “awkwardly written.” Per the Examiner’s suggestion, claim 4 has been amended to claim a range of “between about 175° and about 180°.”

Claim 5 was rejected for lack of proper antecedent basis for “the other end” in lines 3, 6, and 9. This claim has been amended to refer to the ends as “first” ends and “second” ends, and thus now provides proper antecedent basis. Claim 5 was also rejected for using the alternative terminology “and/or” in line 12. This terminology has been replaced with a proper Markush group.

III. CLAIM REJECTIONS UNDER 35 U.S.C. § 102

A. U.S. Patent No. 5,527,024 to Dysktra (“Dysktra”)

Claims 1, 8, and 10-11 were rejected under 35 U.S.C. § 102(b) as being anticipated by Dysktra. The Examiner stated that “Dysktra discloses the claimed invention as disclosed in claims 1, 8, and 10-11. The two joints are elements (30 & 30).” Applicant respectfully traverses.

Independent claim 1 recites “at least two toggle joints arranged to substantially simultaneously assume a dead point position when the bar system is taken from the initial position to the locking position, and further wherein said two toggle joints *form an angle with each other in the dead point positions.*” (Emphasis added). What the Examiner refers to in Dysktra as “two toggle joints” is the pair of control links 30. Control links 30, however, do not “form an angle with each other in the dead point positions,” as recited by claim 1. This is because control links 30 are connected to each other at both ends by pivot pins 32 and 34, and are thus restrained in parallel relationship to one another. *See*, Dysktra, 2:44-47; Figs. 1-5. Thus, control links 30 *cannot* “form an angle with each other in the dead positions,” as recited by claim 1. Accordingly, applicant respectfully submits that the rejection of claim 1 based on Dysktra should be withdrawn. Claims 2-8, and 10 depend from claim 1, and should be allowed for at least the same reasons.

Independent claim 11, as amended, recites “wherein the first and second toggle joints substantially simultaneously assume respective dead point positions, when the bar system is moved from a first, unlock position to a second, locked position, and *the first and second toggle joints form an angle with respect to one another when in the dead point*

positions.” (Emphasis added). As shown above with respect to claim 1, the control links 30 of Dysktra do not “form an angle with respect to one another when in the dead point positions,” as recited by claim 11. Thus, applicant respectfully submits that the rejection of claim 11 based on Dysktra should be withdrawn. Claims 12-13 depend from claim 11, and should be allowed for at least the same reasons.

B. U.S. Patent No. 5,921,535 to Lutz, III (“Lutz”)

Claims 1, 8, 10-11 were rejected under 35 U.S.C. § 102(b) as being anticipated by Lutz. The Examiner stated that “Lutz discloses the claimed invention as disclosed in claims 1, 8, and 10-11. The two joints are elements (80 & 90).” Applicant respectfully traverses.

Independent claim 1 recites “at least two toggle joints arranged to substantially simultaneously assume a dead point position when the bar system is taken from the initial position to the locking position, and further wherein said two toggle joints *form an angle with each other in the dead point positions.*” (Emphasis added). What the Examiner refers to in Lutz as “two toggle joints” are intermediate link 80 and intermediate link 90. Links 80, 90, however, do not “form an angle with each other in the dead point positions,” as recited by claim 1. This is because the intermediate links 80, 90 are connected to each other at both ends by fasteners 100, 102 and dowel pin 104, and are thus restrained in parallel relationship to one another. *See*, Lutz, 3:42-4:2; Figs. 1-3. Thus, intermediate links 80, 90 *cannot* “form an angle with each other in the dead positions,” as recited by claim 1. Accordingly, applicant respectfully submits that the rejection of claim 1 based on Lutz should be withdrawn. Claims 2-8, and 10 depend from claim 1, and should be allowed for at least the same reasons.

Independent claim 11, as amended, recites “wherein the first and second toggle joints substantially simultaneously assume respective dead point positions, when the bar system is moved from a first, unlock position to a second, locked position, and *the first and second toggle joints form an angle with respect to one another when in the dead point positions.*” (Emphasis added). As shown above with respect to claim 1, the intermediate links 80, 90 of Lutz do not “form an angle with respect to one another when in the dead point positions,” as recited by claim 11. Thus, applicant respectfully submits that the rejection of claim 11 based on Lutz should be withdrawn. Claims 12-13 depend from claim 11, and should be allowed for at least the same reasons.

IV. NEW CLAIMS

New independent claim 14, and dependent claims 15-18 have been added to further define the scope of the present invention. Independent claim 14 recites a clamping tool, wherein first and second toggle joints substantially simultaneously assume respective dead point positions when the bar system is moved from a first, unlocked position to a second, locked position, and further wherein the clamping member exerts a first clamping force and a second clamping force when the first and second toggle joints assume the respective dead point positions, *the first clamping force oriented substantially transverse to the second clamping force*. (Emphasis added). This feature of claim 14 is not disclosed in any of the prior art of record.

V. CONCLUSION

Applicant respectfully submits that all pending claims comply with the requirements of 35 U.S.C. §112 and are allowable over the cited references, whether taken singly or in combination. Accordingly, this application is now in condition for allowance, early notice of which would be appreciated. Should the Examiner not agree that all claims are allowable, then a personal or telephonic interview is respectfully requested to discuss any remaining issues and to accelerate the allowance of the above-identified application.

No additional fee is believed to be due for the submission of this response. Should any fees be required, please charge such fees to Pennie & Edmonds LLP deposit account no. 16-1150.

Respectfully submitted,

Date: July 25, 2002

By: Steven J. Schwarz
Marcia H. Sundeen (Reg. No. 30,893)
Steven J. Schwarz (Reg. No. 47,070)

PENNIE and EDMONDS LLP
1667 K Street, N.W.
Washington, D.C. 20006
(202) 496-4400

APPENDIX A

Marked-Up Specification

The changes made to the specification are illustrated below, with brackets surrounding deleted text, and with added text underlined.

In the Abstract:

— A clamping tool serving for clamping a workpiece on a support by [means of] a bar system constructed of a number of mutually pivotal bars comprising an activation bar for at operation making the bars pivot mutually between an initial position and a locking position, a clamping bar having at least one clamp shoe for pressing against the workpiece in the locking position of the bar system, and a base for mounting the bar system on the support. The bar system furthermore comprises two toggle joints arranged to simultaneously or almost simultaneously assume their dead point positions when the bar system at activation is taken from the initial position to the locking position. In the dead point positions the two toggle joints form an angle with each other. Thereby the clamping tool according to the invention is rendered capable of simultaneously acting on a workpiece which is to be clamped on a support with compressive forces in at least two directions so that the number of the clamping tools required for a given task can be reduced by one half compared to the number that is required when conventional clamping tools are used. --

Please insert the following paragraph on page 6, beginning at line 31:

— In one exemplary embodiment, the bar system 8 includes a first swivel connection 21 for pivotally journaling one end of the activation bar 10 in the base 6 while the other end of the activation bar 10 is free and serves as handle 11 of the clamping tool. A rocking bar 12 is pivotally journaled in the base 6 via a second swivel connection 22 which is nearer to the clamp shoes 19, 20, than the first swivel connection 21. The other end of the rocking bar 12 is pivotally journaled in the clamping bar 9 via a third swivel connection 23. A first toggle joint 13 has a first joint 14 which is pivotally journaled in the clamping bar 9 via a fourth swivel connection 24, located farther from the clamp shoes 19, 20 than the third swivel connection 23. The other end of the first joint 14 is pivotally journaled in the

activation bar 10 via a fifth swivel connection 25. The first toggle joint 13 also has a second joint 15 consisting of the part of the activation bar 10 that is extending from the fifth swivel connection 25 to the first swivel connection 21. A second toggle joint 16 has a first joint 17 which at one end is pivotally journaled in the rocking bar 12 and/or clamping bar 9 via a sixth swivel connection 26, and at the other end is pivotally journaled in the activation bar 10 via a seventh swivel connection 27. When the clamping tool is in the locking position, the seventh swivel connection 27 is nearer the clamp shoes 19, 20 than the first swivel connection 21 and the fifth swivel connection 25. The second toggle joint also includes a second joint 17 consisting of the part of the activation bar 10 that is extending between the seventh swivel connection 27 and first swivel connection 21. –

APPENDIX B

Marked-Up Claims

The changes made to the claims are illustrated below, with brackets surrounding deleted text, and with added text underlined.

4. (Amended) The clamping tool according to claim 3, wherein the angle that the two joints [and respectively] of each toggle joint form together in the locking position of the bar system is between about 175° and about 180° [, preferably between 177° and 180°, and especially between 178° and 180°].

5. (Amended) The clamping tool according to claim 1, wherein the bar system comprises:

a first swivel connection for pivotally journaling [one] a first end of the activation bar in the base while [the other] a second end of the activation bar is free and serves as handle for the clamping tool;

a rocking bar which at [one] a first end is pivotally journaled in the base via a second swivel connection which is nearer the at least one clamp shoe than the first swivel connection and at [the other] a second end is pivotally journaled in the clamping bar via a third swivel connection;

a first toggle joint having a first joint which at [one] a first end is pivotally journaled in the clamping bar via a fourth swivel connection which is farther from the at least one clamp shoe than the third swivel connection, and at [the other] a second end is pivotally journaled in the activation bar via a fifth swivel connection, and a second joint consisting of the part of the activation bar that is extending from the fifth to the first swivel connection; and

a second toggle joint having a first joint which at [one] a first end is pivotally journaled in one of the group consisting of the rocking bar and [/or] the clamping bar via a sixth swivel connection, and at [the other] a second end is pivotally journaled in the activation bar via a seventh swivel connection which in the locking position of the clamping tool is nearer the at least one clamp shoe than the first and the fifth swivel connection, and a second joint consisting of the part of the activation bar that is extending between the seventh and the first swivel connection.

11. (Amended) A clamping tool comprising:

- a base member;
- a bar system mounted to the base member and comprising a plurality of mutually pivotal bars including:
 - an activation bar pivotally mounted to the base member and being provided with a handle member;
 - a racking bar also pivotally mounted to the base member and operatively connected to the activation bar via a first toggle joint; a clamping bar operatively connected to the activation bar via a second toggle joint and being pivotally mounted to said racking bar;

wherein the first and second toggle joints substantially simultaneously assume respective dead point positions, when the bar system is moved from a first, unlock position to a second, locked position, and the first and second toggle joints form an angle with respect to one another when in the dead point positions.

APPENDIX C

Currently Pending Claims

The following is a complete listing of the currently pending claims in this application, reflecting the amendments made herein.

1. A clamping tool for clamping a workpiece to a support by means of a bar system constructed of a number of mutually pivotal bars and comprising an activation bar for making the bars pivot mutually between an initial position and a locking position, a clamping bar having at least one thrust shoe for pressing against the workpiece in the locking position, and a base for mounting the bar system on the support, wherein the bar system furthermore comprises at least two toggle joints arranged to substantially simultaneously assume a dead point position when the bar system is taken from the initial position to the locking position, and further wherein said two toggle joints form an angle with each other in the dead point positions.

2. The clamping tool according to claim 1, wherein the two joints of each toggle joint together form an angle that points its point in the opposite direction of the at least one clamp shoe in the initial position of the bar system.

3. The clamping tool according to claim 1, wherein the two joints and respectively of each toggle joint together form an angle that point its point in a direction towards the at least one clamp shoe in the locking position of the bar system.

4. (Amended) The clamping tool according to claim 3, wherein the angle that the two joints of each toggle joint form together in the locking position of the bar system is between about 175° and about 180°.

5. (Amended) The clamping tool according to claim 1, wherein the bar system comprises:

a first swivel connection for pivotally journaling a first end of the activation bar in the base while a second end of the activation bar is free and serves as handle for the clamping tool;

a rocking bar which at a first end is pivotally journaled in the base via a second swivel connection which is nearer the at least one clamp shoe than the first swivel connection and at a second end is pivotally journaled in the clamping bar via a third swivel connection;

a first toggle joint having a first joint which at a first end is pivotally journaled in the clamping bar via a fourth swivel connection which is farther from the at least one clamp shoe than the third swivel connection, and at a second end is pivotally journaled in the activation bar via a fifth swivel connection, and a second joint consisting of the part of the activation bar that is extending from the fifth to the first swivel connection; and

a second toggle joint having a first joint which at a first end is pivotally journaled in one of the group consisting of the rocking bar and the clamping bar via a sixth swivel connection, and at a second end is pivotally journaled in the activation bar via a seventh swivel connection which in the locking position of the clamping tool is nearer the at least one clamp shoe than the first and the fifth swivel connection, and a second joint consisting of the part of the activation bar that is extending between the seventh and the first swivel connection.

6. The clamping tool according to claim 5, wherein the third and the sixth swivel connection coincide.

7. The clamping tool according to claim 5, wherein the sixth swivel connection is placed on the rocking bar between the second and the third swivel connection.

8. The clamping tool according to claim 1, wherein the first and the second toggle joint pass the dead point positions simultaneously when the bar system is taken from its initial position to its locking position.

10. The clamping tool according to claim 1, wherein the first joint of the first and second toggle joint respectively is shaped as a U having a bottom and two sides.

11. (Amended) A clamping tool comprising:
a base member;

a bar system mounted to the base member and comprising a plurality of mutually pivotal bars including:

an activation bar pivotally mounted to the base member and being provided with a handle member;

a racking bar also pivotally mounted to the base member and operatively connected to the activation bar via a first toggle joint; a clamping bar operatively connected to the activation bar via a second toggle joint and being pivotally mounted to said racking bar;

wherein the first and second toggle joints substantially simultaneously assume respective dead point positions, when the bar system is moved from a first, unlock position to a second, locked position, and the first and second toggle joints form an angle with respect to one another when in the dead point positions.

12. The clamping tool according to claim 11, further comprising first and second clamping surfaces formed on the clamping member, said first and second clamping surfaces being directed substantially perpendicular to one another.

13. The clamping tool according to claim 12, further comprising first and second screws engaged to said clamping member wherein a first clamping surface is formed on said first screw and said second clamping surface is formed on said second screw.

14. (New) A clamping tool comprising:

a base member;

a plurality of mutually pivotal bars mounted to the base member, including:

an activation bar pivotally mounted to the base member;

a rocking bar pivotally mounted to the base member and operatively connected to the activation bar via a first toggle joint;

a clamping member operatively connected to the activation bar via a second toggle joint and pivotally mounted to the rocking bar;

wherein the first and second toggle joints substantially simultaneously assume respective dead point positions when the bar system is moved from a first, unlocked position to a second, locked position;

further wherein the clamping member exerts a first clamping force and a second clamping force when the first and second toggle joints assume the respective dead

point positions, the first clamping force oriented substantially transverse to the second clamping force.

15. (New) The clamping tool of claim 14, wherein the first clamping force is substantially perpendicular to the second clamping force.

16. (New) The clamping tool of claim 14, wherein the first and second toggle joints form an angle with respect to one another when in the dead point positions.

17. (New) The clamping tool according to claim 16, wherein the angle is between about 175° and about 180°.

18. (New) The clamping tool according to claim 14, further comprising first and second clamping surfaces formed on the clamping member, said first and second clamping surfaces being directed substantially perpendicular to one another.